ISSN (print) 0093-4666 © 2012. Mycotaxon, Ltd. ISSN (online) 2154-8889

MYCOTAXON

http://dx.doi.org/10.5248/119.255

Volume 119, pp. 255–260 *January–March 2012*

Two new species of *Hyphoderma* (*Agaricomycetes*) from India

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Abstract – Two new corticioid species, *Hyphoderma bicystidiatum* and *H. subglobosum,* are described from Kangra Hills in Himachal Pradesh.

Key words – northwestern Himalaya, angiosperm host

While conducting fungal forays in district Kangra of Himachal Pradesh, India, Priyanka collected two interesting corticioid fungi that were referred to *Hyphoderma* based on detailed macroscopic and microscopic comparisons (Eriksson & Ryvarden 1975, 1976; Martin & Gilbertson 1977; Rattan 1977; Burdsall & Nakasone 1983; Dhingra 1989, Dhingra & Singla 1993, Natarajan & Kolandavelu 1998, Dhingra & Singh 2009, Dhingra et al. 2009, Singh et al. 2010). The specimens could not be assigned to any known taxa and are here described as two new species. Samples of both collections were sent to Prof. Nils Hallenberg, who also supported the concept of referring the new species to *Hyphoderma*.

Hyphoderma bicystidiatum Priyanka & Dhingra, **sp. nov.** Figs 1–7

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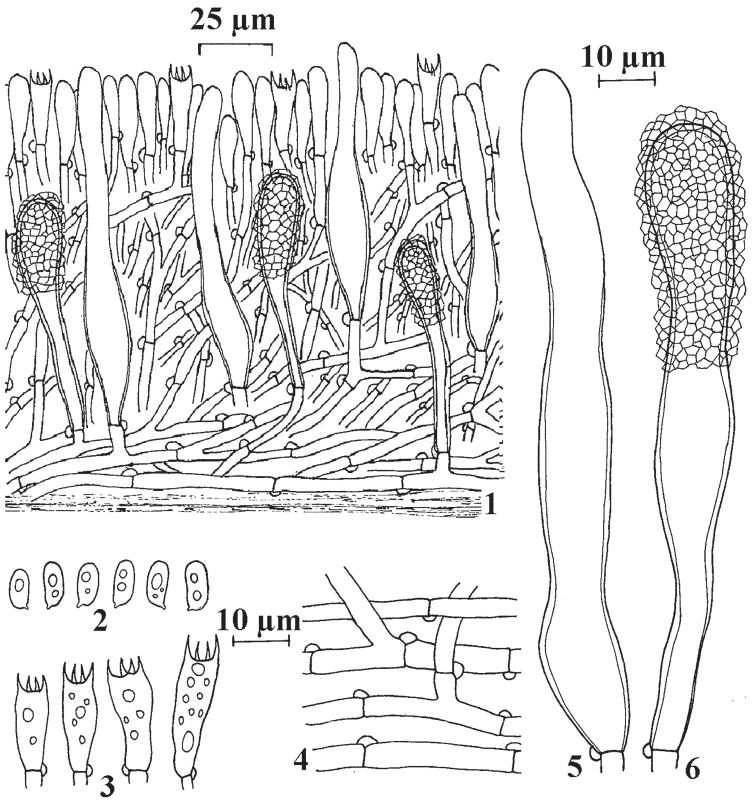
Differs from *Hyphoderma pallidum* in the presence of thick-walled clavate encrusted cystidia.

Type: India, Himachal Pradesh: Kangra, Shiv Nagar, on decaying angiospermous branches, 25 August 2009, Priyanka 4298 (PUN, **holotype**).

Etymology: The epithet refers to the presence of two types of cystidia.

Basidiocarp resupinate, effused, adnate, up to 250 µm thick in section; hymenial surface smooth to somewhat tuberculate under the lens, yellowish white to pale yellow; margins thinning out, concolorous but paler. Hyphal system monomitic; generative hyphae up to 5.5 µm wide, ordinarily branched, with clamps at all



Figs 1–6. *Hyphoderma bicystidiatum*: microscopic structures.
1. vertical section through basidiocarp; 2. basidiospores; 3. basidia; 4. generative hyphae; 5. smooth cystidium; 6. thick-walled encrusted cystidium.

septa, thin-walled; hyphae loosely arranged and parallel to the substrate in the basal region and gradually becoming vertically oriented towards the hymenium. Cystidia of two kinds: (i) 82.0–122.0 × 12.3–13.8 µm, tubular, basally widened and somewhat thick-walled, apically thin-walled, smooth; (ii) 69.0–110.0 × 11.0–13.8 µm, clavate to subclavate, thick-walled, encrusted in the apical third part. Basidia 13.6–22.3 × 6.2–7.5 µm, clavate to subclavate, 4-sterigmate, with oily contents and basal clamp; sterigmata up to 4.8 µm long. Basidiospores 6.2–8.8 × 3.0–4.1 µm, subellipsoid to suballantoid, thin-walled, smooth, inamyloid, acyanophilous, with oily contents.

Remarks—*Hyphoderma bicystidiatum* resembles *H. argillaceum* and *H. pallidum* in having basally widened cystidial elements and resinous matter in the

Fig. 7. *Hyphoderma bicystidiatum*: basidiocarp showing hymenial surface.

context. The new species is also similar to *H. pallidum* in the shape of basidiospores. It differs from both, however, in having clavate, thick-walled, encrusted, cystidia. The new combination of features suggests a species of its own.

Hyphoderma subglobosum Priyanka & Dhingra, **sp. nov.** Figs 8–13

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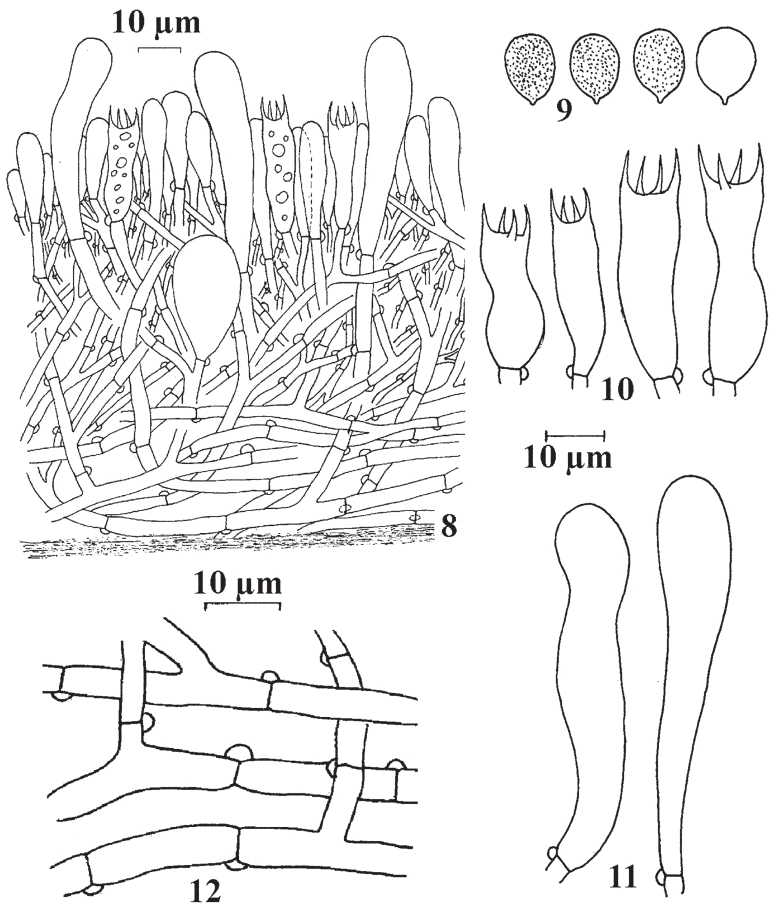
Differs from *Hyphoderma clavigerum* in subglobose basidiospsore shape.

Type: India, Himachal Pradesh: Kangra, about 3 km from Nurpur towards Sulyali, on decaying angiospermous branches, 26 August 2009, Priyanka 4299 (PUN, **holotype**).

Etymology: The epithet refers to the shape of basidiospores.

Basidiocarp resupinate, effused, adnate, up to 170 µm thick in section; hymenial surface smooth to somewhat tuberculate under the lens, grayish yellow to grayish orange; margins thinning out, indeterminate, concolorous but paler. Hyphal system monomitic; generative hyphae up to 5.6 µm wide, ordinarily branched, with clamps at all septa, thin-walled; hyphae almost parallel to the substrate in the basal zone, gradually becoming vertical and densely intertwined in the subhymenial and hymenial zones. Cystidia 50.0–69.0 × 8.0–−11.8 µm, clavate, smooth, thin-walled. Basidia 22.0–34.0 × 6.8–10.0 µm, clavate to subclavate, mostly constricted at the middle, with oily contents, 4-sterigmate,



Figs 8–12. *Hyphoderma subglobosum*: microscopic structures.
8. vertical section through basidiocarp; 9. basidiospores; 10. basidia;
11. cystidia; 12. generative hyphae.

with basal clamp; sterigmata up to 6.8 µm long. Basidiospores 11.8–13.1 × 8.0–10.0 µm, subglobose to broadly ellipsoid, thin-walled, smooth, inamyloid, acyanophilous, with grainy contents.

Remarks—The subglobose spores and the clavate cystidia with light refracting content are diagnostic characters. *Hyphoderma subglobosum* is close to *H. clavigerum* in having similarly shaped cystidial elements but differs considerably in the shape of basidiospores i.e. subglobose in comparison to

Fig. 13. *Hyphoderma subglobosum*: basidiocarp showing hymenial surface.

suballantoid. The combination of subglobose spores and clavate cystidia with light refracting content suggests that the collection represents a new species.

Acknowledgements

The authors thank Prof. Nils Hallenberg (Gothenburg, Sweden) for valuable suggestions and peer review; Prof. B.M. Sharma, Department of Plant Pathology, COA, CSKHPAU, Palampur, H.P., India for peer review; Head, Department of Botany, Punjabi University, Patiala, is thanked for providing research facilities.

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